Proposal Title	VARIOMETH - EXPLORING THE ROLE OF DNA METHYLATION IN EPIGENETIC VARIATION IN HIGHER PLANTS		
Marie Curie action-code	OIF	*Scientific Panel*	**LIF**
Total duration in months	**36**	*Call identifier*	FP6-2002-Mobility-6
Keyword code 1	**03.02.04.08.02.00.00 Plant development**		
Keyword code 2	**03.02.03.12.11.00.00 Plant genetics**		
Keyword code 3	**03.02.02.02.00.00.00 In vitro culture of plant material**		
Free keywords (up to 200 characters)	**Epigenetics / Somaclonal variation / Gene Expression / Chromatin Remodelling / DNA methylation / Protein-DNA interactions / Methylcytosines / Methyltransferases**		

European Commission
Human Resources and Mobility
Marie Curie Outgoing International Fellowship
2004-2007

DNA methylation plays an essential role in regulating plant development: recent research has demonstrated that this epigenetic phenomenon plays an integral role in processes such as vernalisation, flowering and endosperm development.
Even though the exploration of epigenetic phenomena has been intensively developed for the study of cancer and many human disease syndromes, only a few groups are studying these phenomena in plants, where they have major economic relevance, such as somaclonal variation or transcriptional gene silencing.
Epigenetic regulation of gene expression is mediated by two processes: methylation of cytosine residues in DNA and chromatin structure.

Dr Finnegan's group in CSIRO Australia is undoubtedly a world leader in this area, as it has a high international profile earned through many key contributions to plant epigenetic research over the last 10 years.

Dr Rival is the leader of a research group working on the molecular determinism of somaclonal variation in tropical plants of economic importance, such as oil palm.

The aim of the present OIF is to consolidate Dr Rival's expertise in the understanding and study of epigenetic mechanisms in plants.

Dr Rival's group has shown that the occurrence of floral variants in tissue-culture derived oil palm is associated with DNA hypomethylation. The time is ripe to integrate the various strategies developed by Dr Finnegan's group to the study of epigenetic regulation of somaclonal variation in oil palm.

The VARIOMETH fellowship will focus on the role of DNA methyltransferases on the determinism of somaclonal variation and on the exploration of the relationship between DNA methylation and chromatin remodelling. Indeed, methylated DNA has been found to adopt a distinctive chromatin structure in the genome. Both approaches will be developed in parallel with the aim of describing specific molecular events which could be used for the development of markers of epigenetic instability in plants. These markers will be integrated in a strategy aimed at the identification of *in vitro* treatments which are prone to generate epigenetic variability in somatic embryogenesis-based micropropagation processes.

The outputs of the Fellowship will be shared between Europeans research groups dedicated to epigenetics in plants through a EC 6FP RTN (Research and Training Network) project named EPIDEV, which has been presented in November 2003 under reference number FP6-512523.

Marie-Curie International Fellowships — Call: FP6-2002-Mobility-6A

EVALUATION SUMMARY REPORT

Proposal Nr :	509893	***Acronym :***	VARIOMETH
Instrument :	Marie-Curie International Outgoing Fellowships (OIF)	***Scientific Panel:***	LIF
Title :	EXPLORING THE ROLE OF DNA METHYLATION IN EPIGENETIC VARIATION IN HIGHER PLANTS		

Overall score (Threshold : 3,5)	4,32
Has the proposal passed all thresholds?	Y
Overall comments:	

1. Scientific quality of the project (Weight 0,15 / No threshold)	***Mark (out of 5)***
The objective of this proposal is to explore epigenetic phenomena in plants. Specifically, the project will focus on the role of methyltranferases in chromatin remodelling and somatoclonal variation. It is a sound proposal with high scientific quality, content and highly relevant. Original and innovative aspects are clear and the research methods to be used are well documented. It is a multidisciplinary project and the outcome of this project benefit many fields of science. The state of the art and its relevance to the project are clearly mentioned. The results are likely to contribute the the identification of markers of genetic instability in plants and to the development of modern technologies of plant breeding.	**4,5**

0 = Fails or missing / incomplete; 1 = Poor; 2 = Fair; 3 = Good; 4 = Very good; 5 = Excellent

2. Quality of the research training activities (Weight 0,15 / Threshold 3)	*Mark (out of 5)*
The proposer has good expertise in plant development and biotechnology. The host institution is expected to provide training in the newest technologies to study the regulation of somatoclonal variation by DNA methylation. Research training activities are clear and of high quality. The complementary training and skills offered would include the organisation of workshop and colloquia events by the researcher. The proposed training will be highly beneficial to the researcher and will greatly increase his knowledge in molecular genetics and genomics.	**4,1**

3. Quality of the host (Weight 0,15 / No threshold)	*Mark (out of 5)*
Both hosts have a very good scientific expertise in this field and the quality of the supervisors are very high. Both supervisors are highly qualified and expertise in training PhD students and research scientists as evidenced by joint publications. International collaborations are evident. Both host institutes have a very good infrastructure to support the proposed research.	**4,5**

4. Quality of the researcher (Weight 0,15 / Threshold 4)	*Mark (out of 5)*
The candidate is a highly qualified and experienced senior research scientist. He has an excellent CV and an impressive publication record. His independent thinking and leadership qualities are evident from the number of PhD students he supervised, projects he executed with international recognition as a research leader. He has suitable skills to execute the proposed project effectively. This fellowship will increase his knowledge, capability, competitiveness within and outside EU.	**4,4**

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5. Management and feasibility (Weight 0,05 / No threshold)	*Mark (out of 5)*
The workplan is very well organized however, considering the position of the proposer as an established scientist and group leader, the proposed duration of the project in the outgoing phase appears to be long. Practical arrangements have been detailed through the supporting letter, but the management of the fellowship is not clear. The proposed project is feasible within the framework of duration. The methodological approach and work plan are clearly mentioned. In the WP, each phase and the time scale with the planned research activity is clearly addressed.	**4,0**

6. Relevance to the objectives of the scheme (Weight 0,15 / No threshold)	**Mark (out of 5)**
The researcher and his group will highly benefit from this mobility grant. Also, mobility will help to improve his current experience and make him more competitive inside and outside Europe. There is a strong match between the proposed project and the researcher's profile. The researcher is currently leading the group working in the similar area and hence it is quite likely that the researcher will continue this area of research after this fellowship. The fellowship has the potentially to enhance the EU scientific level in plant epigenetics and it will increase the collaboration within EU and with Australia bringing to an increase of knowledge and researchers mobility.	**4,2**

7. Added value to the Community (Weight 0,20 / No threshold)	**Mark (out of 5)**
The study of somatoclonal variation in plants has obvious relevance to plant biotechnology and as such it is a high priority and contribute to the objectives to the ERA. In this respect, transfer of new technologies from an important institution outside Europe and establishment of collaborative links is likely to contribute to the European excellence. Also, the out come of this research will contribute immensely to the research excellence and European competitiveness.The benefits to the researcher, the groups involved and to the area of plant research as a whole will be very good. This collaboration will become a platform for long-term collaboration. Also, the potential for improving long-term collaborations within and outside EU is high. In addition, the gender balance is adequately addressed.	**4,3**


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NETWORK OF
MOBILE RESEARCHERS
• International (42 countries) and highly multidisciplinary (all major disciplines)
• Founded to promote the Marie Curie Actions programme and geographic mobility
• 3195 registered fellows (1.028 female, 2.167 male); with ca. 100 new fellows a year

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- MCFA manages **20** mailing lists, more than **3.000** subscribers and ca. **350** postings per months
  - Hot topics "**taxation of allowances**", "**health insurance**", "**auditing**", "**annual reports**", and **events**
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CONFERENCES AND MEETINGS

- **70** conferences and workshops organized by the Association, ca. **100** at which the Association was represented
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IT SERVICES

- More than **22.000** unique visitors a month (average duration of visit **3 min**)
- **Online member database** to search for members in neighborhood
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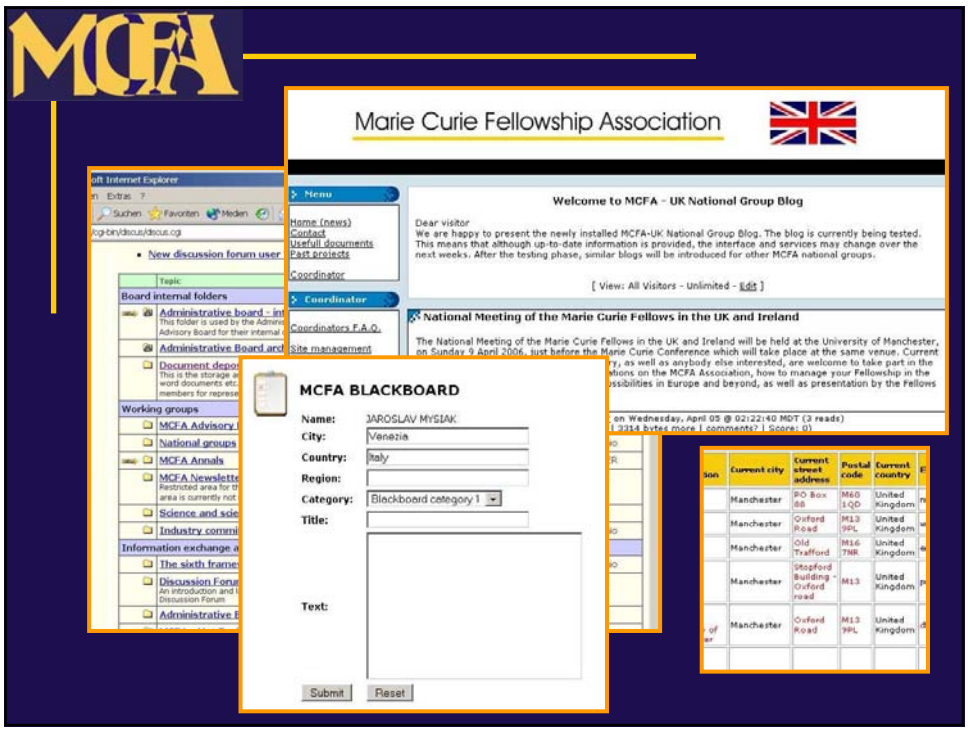

SCIENCE POLICY
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PUBLICATIONS

Monthly "**Letters to members**"

Quarterly "**MCFA Newsletter**"

Scientific Journal "**The Annals of Marie Curie Fellows**"

A column "**Fellows Journeys**" in science magazine

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